


SUPPORT THROUGH THE WEBSITE

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For quick access, from the home page click on the search icon , and type in the name of the product you're looking for. This allows you access to download Data Sheets, Manuals, Software & Utilities, and Drawings. Hover over the Support & Service menu for access to Services and Technical Support.

HMI X-PRESS™ INTERFACE

In normal operating mode the colors and meaning of the five LEDs are illustrated in the following table:

READY (green)	indicates the device is ready to operate.
GOOD (green)	confirms successful reading.
TRIGGER (yellow)	indicates the status of the reading phase.
COM (yellow)	indicates active communication on main serial port.
STATUS (red)	indicates a NO READ result.

During the reader startup (reset or restart phase), all the LEDs blink for one second.



HMI X-PRESS™

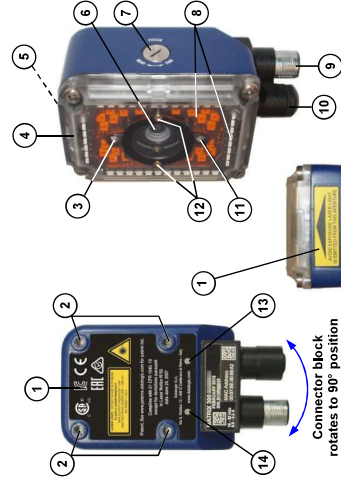
The single push button gives immediate access to the following relevant functions:

- Test Mode with bar graph visualization to check static reading performance
- Aim/Focus turns on the laser pointers or Blue Diamonds to aim the reader at the target. For liquid lens versions the autofocus procedure is incorporated into this function.
- AutoSetup to self-optimize and auto-configure photometry parameters
- AutoLearn to self-detect and auto-configure for reading unknown barcodes (by type and length)



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Matrix 300N™ Software Adjustable Focus Models

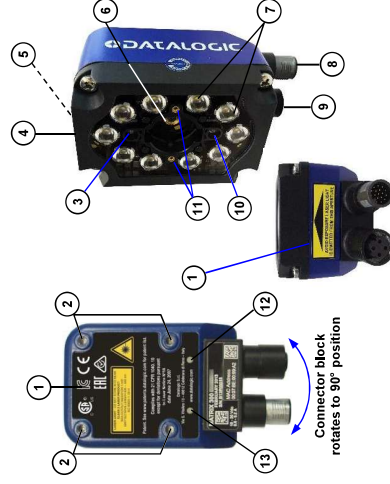


Connector block rotates to 90° position

General View

- 1 Device Class and Warning Labels
- 2 Mounting Holes (4)
- 3 Good Read LED (green)
- 4 Lens Cover
- 5 HMI X-PRESS™ Interface
- 6 Lens
- 7 Focus Adjustment Screw (Manual Adjustable Focus Models only)
- 8 Internal Illuminator
- 9 Power - Serial - I/O Connector
- 10 Ethernet Connector
- 11 No Read LED (red)
- 12 Aiming System Laser Pointers
- 13 Ethernet Connection LED
- 14 Power On LED

Matrix 300N™ 2 MP Software Adjustable Focus Models



Connector block rotates to 90° position

General View

- 1 Device Class and Warning Labels
- 2 Mounting Holes (4)
- 3 Good Read LED (green)
- 4 Lens Cover
- 5 HMI X-PRESS™ Interface
- 6 Lens
- 7 Internal Illuminator
- 8 Power - Serial - I/O Connector
- 9 Ethernet Connector
- 10 No Read LED (red)
- 11 Aiming System Laser Pointers
- 12 Ethernet Connection LED
- 13 Power On LED

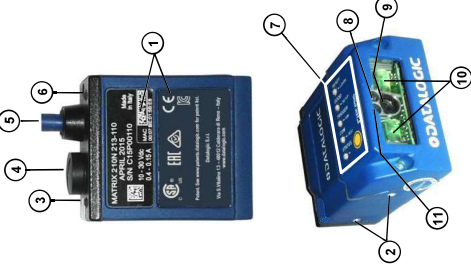
Matrix 210N™ Software Adjustable Focus Models



General View

- 1 Device Class and Warning Labels
- 2 Mounting Holes (4)
- 3 Ethernet Connection LED
- 4 Ethernet Connector
- 5 Power - Serial - I/O Cable Connector
- 6 Power On LED
- 7 HMI X-PRESS™ Interface
- 8 Lens
- 9 Internal Illuminator
- 10 Good Read LED Spot (green)
- 11 Aiming System Laser Pointers
- 12 No Read LED Spot (red)

Matrix 210N™ Fixed Focus Models



Matrix 410N™ (shown with Lens and Illuminator accessories)



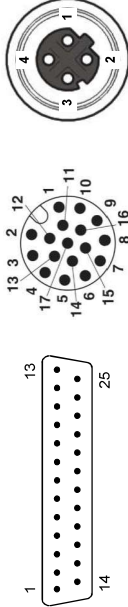
* some Illuminator models are equipped with Laser Pointer LEDs.

- 1 Device Class and Warning Labels
- 2 Mounting Holes (12)
- 3 Lens Cover
- 4 Lens (separate accessory)
- 5 Internal Illuminator (separate accessory)
- 6 HMI X-PRESS™ Interface
- 7 Power On LED
- 8 Power - Serial - I/O Connector
- 9 Ethernet Connector
- 10 Ethernet Connection LED

Power - Serial - I/O Connector Pinout				
25-pin	17-pin			
1	CHASSIS	17-pin	16	nc
20	RX	17	17	TX
21	TX	11	11	RX
8	O1+	4	4	RTS
22	O1-	12	12	CTS
11	O2+	10	10	
12	O2-			
14, 15, 16, 17	nc			

Main Interface Pinout	
RS232	RS422 Full Duplex
1	TX+
2	***RX+
3	TX-
4	***RX-
5	CTS

** referenced to GND. Outputs become opto-isolated and polarity sensitive when connected through the CBX connection box. See Reference Manual for connection details. *** do not leave floating. See Reference Manual for connection details.



Standard M12 D-Coded 4-pin female connectors are provided for the Ethernet and Profinet/IO interfaces which are IEEE 802.3u 100 BaseT/x compliant. Use Pin 1 = TX+, Pin 2 = RX+, Pin 3 = TX-, Pin 4 = RX-

TECHNICAL FEATURES

ELECTRICAL FEATURES	210N	300N	300N PoE	410N
Power Supply Voltage (Vdc) Consumption (A) Max.	10 to 30 0.4 to 0.15	10 to 30 0.7 to 0.2	48 13 W	10 to 30 0.8 to 0.27
Communication Interfaces				
Main	2400 to 115200 bits/s			
- RS232	2400 to 115200 bits/s			
- RS422 full-duplex	2400 to 115200 bits/s			
Auxiliary – RS232	2400 to 115200 bits/s			
ID-NET™	Up to 1Mbaud			
Ethernet ¹	10/100 Mbit/s			
Inputs:	Opto-coupled and polarity insensitive (see Reference Manual for details)			
Outputs:	Opto-coupled (see Reference Manual for details)			
OPTICAL FEATURES (see Reference Manual for details)				

PHYSICAL FEATURES	210N	210N	300N (connectors at 0° position)	410N
PHYSICAL FEATURES				
Liquid Lens	Straight	90°		
Dimensions mm (inch)	61 x 25 x 45 (2.4 x 1 x 1.8)	54 x 32 x 45 (2.1 x 1.3 x 1.8)	1.3 MP models 95 x 54 x 43 (3.7 x 2.1 x 1.7) 2 MP models 95 x 54 x 45 (3.7 x 2.1 x 1.8)	125 x 65 x 87 (4.9 x 2.6 x 3.4)
Weight grams (ounces)	237 (8.4) with cable	190 (6.7) with cable	1.3 MP models 238 (8.4) 2 MP models 236.5 – 274.5	482 (17)
Material	ZAMAl/Nickel Finish	Aluminium	Aluminium	Aluminium
ENVIRONMENTAL FEATURES				
Operating Temperature ^{2, 3}	0 to 50 °C (32 to 122 °F)			
Storage Temperature	-20 to 70 °C (-4 to 158 °F)			
Max. Humidity	90% non-condensing			
Vibration Resistance	14 mm @ 2 to 10 Hz; 1.5 mm @ 13 to 55 Hz; 2 g @ 70 to 500 Hz; 2 hours on each axis			
Bump Resistance	30g; 6 ms; 5000 shocks on each axis			
EN 60068-2-6	30g; 11 ms; 3 shocks on each axis			
EN 60068-2-29				
Shock Resistance				
EN 60068-2-27				
Protection Class ⁴	IP65 (IP54 for ESD models)			
EN 60529	IP65 and IP67			
USER INTERFACE				
LED Indicators	Power, Ready, Good, Trigger, Com, Status; Ethernet Network; Green Spot; (see Reference Manual for other LEDs)			
Other	X-PRESS™ Keypad Button (configurable via DL.CODE™); Beeper			

SOFTWARE FEATURES	1D and stacked	2-D	POSTAL
SOFTWARE FEATURES			
Readable Code Symbolologies	<ul style="list-style-type: none"> PDF417 Standard and Micro PDF417 Code 128 (GS1-128) Code 39 (Standard and Full ASCII) Code 32 MSI Standard 2 of 5 Matrix 2 of 5 Interleaved 2 of 5 	<ul style="list-style-type: none"> Data Matrix ECC 200 (Standard, GS1 and Direct Marking) QR Code QR Code (Standard and Direct Marking) (including Addon 2 and Addon 5) GS1 DataBar Family Composite Symbolologies 	<ul style="list-style-type: none"> Australia Post Royal Mail 4 State Customer Kix Code Japan Post PLANET POSTNET POSTNET (+4B) Intelligent Mail Swedish Post
Operating Mode Configuration Methods	CONTINUOUS, ONE SHOT, PHASE MODE, PACKET TRACK™, X-PRESS™ Human Machine Interface Windows-based SW (DL.CODE™) via Ethernet Host Mode Programming sequences sent over Serial or Ethernet TCP interfaces		
Parameter Storage	Permanent memory (Flash)		

¹ the embedded Ethernet interface supports application protocols: TCP/IP, EtherNet/IP, PROFINET-IO, Modbus TCP
² high ambient temperature applications should use metal mounting bracket for heat dissipation.
³ for all liquid lens models (Matrix 210N™ and Matrix 300N™) operating temperature is 0 to 45 °C (32 to 113 °F).
⁴ when correctly connected to IP67 cables with seals, and for Matrix 410N™ models the Lens Cover is correctly mounted.

PATENTS

See www.datalogic.com for patent list.

These products are covered by one or more of the following patents:

Utility patents: EP0962348B1, EP0965148B1, EP1014292B1, EP1283158B1, EP1398118B1, EP1413971B1, EP1804089B1, EP2315156B1, EP2517148B1, EP2649555B1, JP4435343B2, JP4571259B2, JP5192309B2, US6512218, US6616039, US6808114, US6997385, US7053954, US7287246, US8056600, US8113430, US8368000, US8743263, US8888003, US8915443, US9268982, US9482793, ZL20069050007.8, ZL200880132595.9, ZL200980163411.X

Matrix 210N™
 EP0962348B1, EP0965148B1, EP1014292B1, EP1283158B1, EP1398118B1, EP1413971B1, EP1804089B1, EP2315156B1, EP2517148B1, EP2649555B1, JP4435343B2, JP4571259B2, JP5192309B2, US6512218, US6616039, US6808114, US6997385, US7053954, US7287246, US8056600, US8113430, US8368000, US8743263, US8888003, US8915443, US9268982, US9482793, ZL20069050007.8, ZL200880132595.9, ZL200980163411.X

Matrix 300N™
 EP002197715, JP1521956, JP1522252, USD765755, ZL201330339980.2

Matrix 410N™
 EP0962348B1, EP0965148B1, EP1014292B1, EP1283158B1, EP1398118B1, EP1413971B1, EP1804089B1, EP2315156B1, EP2517148B1, EP2649555B1, JP4435343B2, JP4571259B2, JP5192309B2, US6512218, US6616039, US6808114, US6997385, US7053954, US7287246, US8056600, US8113430, US8368000, US8743263, US8888003, US8915443, US9268982, US9482793, ZL20069050007.8, ZL200880132595.9, ZL200980163411.X

COMPLIANCE

See the relative Matrix Reference Manual for the Declaration of Conformity.
 Only connect Ethernet and dataport connections to a network which has routing only within the plant or building and no routing outside the plant or building.

EMC COMPLIANCE

In order to meet the EMC requirements:

- connect reader chassis to the plant earth ground by means of a flat copper braid shorter than 100 mm;
- connect pin "Earth" of the CBX connection box to a good Earth Ground;

CE COMPLIANCE

CE marking states the compliance of the product with essential requirements listed in the applicable European directive. Since the directives and applicable standards are subject to continuous updates, and since Datalogic promptly adopts these updates, therefore the EU declaration of conformity is a living document. The EU declaration of conformity is available for competent authorities and customers through Datalogic commercial reference contacts. Since April 20, 2016 the main European regulatory requirements (CE marking) are included on an open access website (www.datalogic.com/ce) in relation to the applicable points of the standards listed in the Declaration of Conformity. Datalogic products are mainly designed for integration purposes into more complex systems. For this reason, it is under the responsibility of the system integrator to do a new risk assessment regarding the final installation.

Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC COMPLIANCE

Modifications or changes to this equipment without the expressed written approval of Datalogic could void the authority to use the equipment.

This device complies with PART 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference which may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

EAC COMPLIANCE

Customs Union:
 The CU Conformity certification has been achieved; this allows the Product to bear the EAC Conformity mark of certification.
 The CE Conformity certification has been achieved; this allows the Product to bear the CE Conformity mark of certification.

LED SAFETY

LED emission according to EN 62471.

LASER SAFETY

All Matrix 210N™ liquid lens models, all Matrix 300N™ models, and Matrix 410N™ with LT-007 illuminator accessory contain two aiming Laser LEDs used to position the reader.

These products conform to the applicable requirements of IEC 60825-1 and comply with 21 CFR 1040.10 except for deviations pursuant to Laser Notice N° 50, date June 24, 2007. These products are classified as Class 2 laser products according to IEC 60825-1 regulations.



WARNING: Use of controls or adjustments or performance of procedures other than those specified herein may result in exposure to hazardous visible laser light.

Disconnect the power supply when opening the device during maintenance or installation to avoid exposure to hazardous laser light. The laser beam can be switched on or off through a software command.

The following warning label content is applied to each of the laser equipped products indicated in the respective General View illustration (item ①) on the opposite page.



Example Laser Warning Labels



Exemple d'étiquettes d'avertissement laser

Produit(s) conforme selon 21CFR 1040.10 sauf des dérogations relatives à la Laser Notice N° 50, date Juin 24, 2007.

Dans le paquet il y a l'étiquette(s) pour les pays où le texte d'avertissement en français sont obligatoires. Le(s) mettre sur le produit à la place de la version anglaise.

POWER SUPPLY

This product is intended to be installed by Qualified Personnel only.

This product is intended to be connected to a UL Listed Direct Plug-In Power Unit marked LPS or Class 2.

LEGAL NOTICES

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